

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Raymond Kurzweil  
Serial No. : 10/734,617  
Filed : December 12, 2003  
Title : VIRTUAL ENCOUNTERS

Art Unit : 3664  
Examiner : McDieunel Marc  
Conf. No. : 1650

**Mail Stop Appeal Brief - Patents**

Commissioner for Patents  
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REPLY BRIEF

Pursuant to 37 C.F.R. § 41.41, Appellant responds to the Examiner's Answer as follows:

**I. Rejections of claims 1, 3, 6, 8, 11, 12, 13, 17 and 20**

Claim 1 calls for the features of ... motion sensors positioned on a human user, the motion sensors sending motion signals corresponding to movements of the user, as detected by the motion sensors relative to a reference point ... over a communications network; a set of goggles worn by the user, the goggles including a display to render video signals received from a camera; and a humanoid robot, receiving, from the communications network, the motion signals ... the humanoid robot further comprising at least one camera coupled to humanoid robot, the camera for sending video signals to the communications network for reception by the set of goggles.

In answering Appellant's arguments over Hasunuma for claim 1, the Examiner in "Response to Argument" states:

7. As to the reference not teaching "a set of goggles worn by the user, the goggles including a display to render video signals received from ... the at least one camera coupled to humanoid robot ..." (see Hasunuma's et al. fig. 1-2), as noted by the applicant's representative, the "HMD" is nothing but a set of goggles to provide video signals to the user through its display, and note that the robot's head contains a camera. Furthermore, (see figs. 1, 2 and 9, wherein particularly in figure one, an operator being taken as human user that has a head tracker in combination with a head mount display

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(HMD) being placed on the user's body, bear in mind that these two above mentions [sic] features are motion sensors, also the gripping device is a motions sensor as well).<sup>1</sup>

Appellant maintains the position that Hasunuma neither describes nor suggests *inter alia* "motion sensors positioned on a human user, the motion sensors sending motion signals corresponding to movements of the user, as detected by the motion sensors relative to a reference point, the motion signals over a communications network," as required by claim 1.

The Examiner addressed Appellant's contention by pointing out Hasunuma's disclosure of a head tracker in combination with a head mount display (HMD) being placed on the user's body. The Examiner went on saying these two features and Hasunuma's gripping device are all motion sensors.

Appellant contends the reasoning behind the Examiner's assertion is wrong. Hasunuma's HMD with a head tracker specifically deals with audio and video signals. Neither is described to "send motion signals corresponding to movements of the user," as required by claim 1. As explicitly described by Hasunuma at page 2 and in figure 2 (reproduced below), the head tracker and HMD are used to provide realistic information of robot's surrounding views and sounds through the robot eye cameras and feedback collected audio and video signals to the human operator.

Figure 2 shows the system configuration. It consists of an audio-visual display system and a teleoperation master system; the audio-visual display system includes nine display screens, a head mount display (HMD) with a head tracker, and a 3D sound system, and the teleoperation master system includes right and left master-arm with two gripping operation devices, a motion-based, and a 3D mouse. The teleoperation master system is used to provide an operator with kinesthetic sensation as for robot's acting force and moment and upper body's motion, while the audio-visual display system is used to provide with realistic information as for robot's surrounding views and sound.

When traveling, an operator sends a command by using a display screen with the 3D mouse as a command input device; surrounding scenery from the robot is displayed on the other screens with some auxiliary information, and kinesthetic sensation is displayed by moving the motion-base. When working on a dexterous task with arms, an operator manipulates by using master-arms and gripping operation devices, watching views on the HMD from robot eye cameras; kinesthetic sensation of inclination of robot upper body is displayed with the motion-base, and force and torque at wrists of robot and gripping force can be fed back to the operator through the master-arms and the gripping operation devices. (Emphasis added)

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<sup>1</sup> Examiner's Answer pages 8-9.

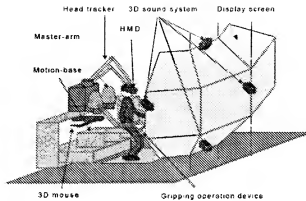


Figure 2. Configuration of teleexistence control cockpit system

Appellant contends that the Examiner misconstrues what Hasunuma actually taught by equating the disclosed gripping device to motion sensors. Hasunuma describes installing a gripping device with a teleoperation system to provide a user with gripping sensation in controlling a remote robot (e.g., see Figure 2 reproduced above). In particular, the gripping device bears various motions sensors so that when a user comes in contact with the device, the sensors can detect and track the user's motions.

However, there is nothing in the reference describes or suggests positioning motion sensors on a human user, as required by claim 1. As Appellant argued in the Brief, placing motion sensors on the human operator in Hasunuma would destroy the intent, purpose and function of the gripping device and the teleoperation system, making it unusable for its intended purposes.<sup>2</sup> In this regard, the Examiner fails to offer any rebuttal in the Examiner's Answer.

It seems the Examiner felt compelled to interpret both the HMD with a head tracker and the gripping device as motion sensors in order to read on the claim language which requires "motion sensors positioned on a human user, the motion sensors sending motion signals corresponding to movements of the user." However, as Appellant insofar argued, this construction of Hasunuma is erroneous because it contradicts what is actually disclosed by the reference. Second, it misleads one to arbitrarily strip the structure and function distinction of

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<sup>2</sup> Appellant's Appeal Brief page 13.

apparently different physical components in order to favor some unsupported inference. Claim limitations are not puzzle pieces to be matched to atomized prior art reference suggestions and they should not be examined out of the context of the claim as well as the specification.

## **II. Rejections of claims 2, 4, 5, 7, 9, 10, 14-16, 18 and 19**

The Examiner did not respond to specific features of these claims. The examiner responded to Appellant's contention of hindsight bias by arguing that: "But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 197 1)." Appellant contends that by arguing that the gripping device and the head tracker were motion sensors on the user evidences a clear use of hindsight bias. That is not to say that motion sensors were not known. Indeed, the well-known knowledge of motion sensors should have permitted the Examiner to find art that showed such motion sensors in the context of the subject matter of these claims. Failure to do so should lead to an inference that the examiner has not shown that the claims were *prima facie* obvious.

## **III. Examiner's comments on obviousness**

The Examiner on page 10 states:

As to the "Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention" (see MPEP 706.02(j))R-6) Contents of a 35 U.S.C. 103 Rejection 35 U.S.C. 103 authorizes a rejection where, to meet the claim, it is necessary to modify a single reference or to combine it with one or more other references.).

The Examiner appears to refer to Appellant's Brief on page 9 where Appellant cited the Federal Circuit's holding in *ACS Hospital Systems, Inc. v. Montefiore Hospital*, which reads:

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under Section 103, teachings of references can be combined only if there is some suggestion or incentive to do so. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984) (emphasis in original, footnotes omitted).

Appellant contends that in addition to misquoting Appellant's argument, the Examiner improperly ignored the Federal Circuit's reasoning in that case. Appellant stands by the arguments presented that there exists a requirement of some reason to support the combination. The requirement of some reason to support the combination was re-affirmed by the Court in *KSR*.<sup>3</sup>

For these reasons, and the reasons stated in the Appeal Brief, Applicant submits that the final rejection should be reversed.

This Reply Brief is accompanied by a Request for Oral Hearing.

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Respectfully submitted,

Date: May 5, 2009

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<sup>3</sup> "As is clear from cases such as *Adams*, a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." See *KSR Int'l v. Teleflex Inc.*, 550 U.S. . 127 S. Ct. 1727, 82 USPQ2d 1385 (2007).